REMARKS

Claims 1, 4, 7 and 10 are pending in this application, of which claim 1 has been amended. Claim 3 has been canceled. No new claims have been added.

Claims 1, 3, 4, 7 and 10 stand rejected under 35 U.S.C. §103(a) as unpatentable over **Lin et al.** (previously applied) in view of Applicants' Admitted Prior Art (hereinafter "**APA**"), McCormack et al. (previously applied), U.S. Patent 4,668,533 to Miller (hereinafter "**Miller**") and WO 02/099162 A2 (hereinafter "**'162**").

Applicant respectfully traverses this rejection.

McCormack et al. discloses a method for substantially preventing the extraneous deposition of electroless metal on selected areas of an insulating substrate which comprises providing the insulating substrate in said selected areas with a poison capable of lowering the catalytic activity in the vicinity of surface imperfections which are present in said areas.

McCormack et al. has been cited for teaching that the oxidizing agent is selectively applied to the non-electrode "space" portion, including all the parts of the space portion of less than 30 microns apart.

Applicant respectfully disagrees. Column 5, lines 34-42 disclose:

> In a preferred embodiment, the entire surface of the insulating substratum may first be rendered sensitive to the reception of electroless copper. The active, poison containing material may then be applied to limited areas of the base material, as by printing or silk-screen stenciling. Thereafter, the base is contacted with an electroless metal deposition solution to deposit electroless metal on the sensitized areas not coated with the poison containing material.

This passage teaches no more than that only certain areas of a substrate are coated, in contrast to selective coating of "all parts of the space portion" in which the distance between electrodes is smaller than 30 µm, as claimed in the instant application. **McCormack et al.** fails to disclose with particularity the location of the parts to be coated, while the claimed invention does just that.

APA suggests no more than that the short circuits are more likely to occur in the space portions smaller than 60 µm. Thus, the combination of **Lin et al.**, **APA**, and **McCormack et al.** fails to teach, mention or suggest that short circuits, which would normally occur in the space portion between electrodes smaller than 30 µm, are prevented by the method recited in claim 1, which includes the steps of coating selectively an oxidizing agent within this small distance of 30 µm, which is much smaller than 60 µm. This capability of applying the oxidizing coating in this small region of 30 µm is not provided by the teachings of the prior art references.

Applicant's attorney conducted a telephone interview with the Examiner on January 21, 2009 to discuss these issues. In particular, it was argued that **APA** discusses only that short circuits are more likely to occur in the space portion smaller than 60 µm, and that **McCormack et al.** merely teaches that certain areas of a substrate are coated. Thus, the combination of the cited references fails to teach or suggest selectively coating of "all parts of the space portion" in which the distance between electrodes is smaller than 30 µm," as claimed. It was emphasized that coating the space portions between electrodes only in the areas where the distance is smaller than 30 µm is more difficult than coating the larger areas up to 60 µm, as suggested by the prior art.

The Examiner acknowledged that this may be the case, but that the claims would have to be amended to recite that the oxidizing agent is selectively coated to only coat all parts of the space portion in which the distance between the electrodes is smaller than 30 µm.

Accordingly, claim 1 was amended to recite this distinction in the Preliminary Amendment filed January 26, 2009.

The Examiner has now cited **Miller** for teaching ink jet printing as a well known printing method to apply materials for electroless plating in a selective form, such as sensitizers and activators.

The Examiner has also cited **'162** for teaching performing electroless plating (page 1), where the substrate is provided with a pre-determined pattern of catalytic material using a pattern transfer mechanism such as ink-jet printing (page 3). **'162** clarifies that when using ink-jet printing, minimum feature sizes on the order of 20 microns are possible. Page 3.

Applicant respectfully disagrees as to the applicability of **Miller** and **'162** to the present invention. Column 2, lines 43-45 of **Miller** disclose only that an "ink comprising a sensitizer for image sensitization" is deposited on a substrate in a predetermined pattern by the ink jet process.

The second and third paragraphs of page 3 of **'162** disclose:

> By using pattern transfer mechanisms, such as, inkjet printing, screen printing, pen writing or spray printing, the catalytic material can be laid down onto the substrate in a pre-determined pattern. When the substrate is subsequently immersed into a suitable catalytic reaction environment the desired catalytic reaction will occur only on the patterned areas of the substrate covered by the catalytic material. Surrounding areas of the substrate will be unaffected.
>
> The minimum feature sizes that result from the use of a pattern transfer technique are dependent on the particular mechanism used. For an ink jet printing technique features of the order 20 microns are possible. Screen printing and/or pen writing result in much coarser features being produced, e.g. up to 1000 microns. Features in the range 20-1000 microns are therefore possible depending on the mechanism used.

It appears that the "sensitizer" of **Miller** and the "catalytic material" of **'162** correspond more closely to the "catalytic metal" cited in claim 1, which is coated by the oxidizing agent to make it inactive in the space portion between the electrodes.

Thus, neither of the references teaches, mentions or suggests that the oxidizing agent is selectively coated by an ink jet method on the catalytic metal in a space portion between the electrodes of the conductive pattern, as recited in claim 3.

Accordingly, claim 3 has been canceled and its limitations added to claim 1.

Thus, the 35 U.S.C. §103(a) rejection should be withdrawn.

Claims 1, 3, 4 and 7 stand rejected under 35 U.S.C. §103(a) as unpatentable over **Zeller** (previously applied) in view of **APA**, **McCormack et al.**, **Miller** and **'162**.

Applicant respectfully traverses this rejection.

The Examiner had admitted that **Zeller** fails to disclose the following claimed features of the present invention:

(1) the conductive pattern includes electrodes to be used with connection pads;
(2) the space portion between the electrodes has a plurality of different values;
(3) that the oxidizing agent is coated selectively so that the oxidizing agent is formed selectively only on all parts of the space portion which are smaller than 30 microns, out of the space portion between the electrodes, to prevent short circuits; and
(4) the ink jet printing of the oxidizing agent (claim 3).

As recited above, the newly-cited references **Miller** and **'162** fail to disclose the features recited in claim 3, which has been canceled, with its limitations added to claim 1 via amendment.

Thus, the 35 U.S.C. §103(a) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1, 4, 7 and 10, as amended, are in condition for allowance, which action, at an early date, is requested.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105.

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Respectfully submitted,

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